

# TRANSACTIONS

OF THE

AMERICAN SOCIETY OF CIVIL ENGINEERS

INDEX

VOLUME 92

1928

SUBJECT INDEX, PAGE 1802

AUTHOR INDEX, PAGE 1818

Titles of papers are in quotation marks when given with the  
author's name.

## VOLUME 92

### SUBJECT INDEX

#### ACCIDENTS.

"Automobile Hazard in Cities and Its Reduction." William J. Cox. 1. Discussion: William T. Lyle, M. O. Eldridge, C. W. Stark, L. G. Holleran, S. Johannesson, W. Graham Cole, Harold M. Lewis, J. K. Finch, G. G. Kelcey, Raymond A. O'Hara, John A. Miller, Jr., T. Kennard Thomson, W. W. Crosby, Theodore T. McCrosky, R. S. Kirby, Lee S. Trainor, Sidney J. Williams, and A. B. Barber. 28.

#### ADDRESSES.

Address at the Annual Convention at Buffalo, N. Y., July 18, 1928. Lincoln Bush. 1646.

#### AERIAL TRAMWAYS.

*See CABLEWAYS.*

#### ANCHORAGE.

Design and construction of the anchorages of the Florianopolis Bridge. 286.

#### ARCHES.

"A Graphic Method for Determining the Stresses in Circular — under Normal Loads by the Cain Formulas." Frederick Hall Fowler. 1512. Discussion: B. F. Jakobsen, William Cain, Walter L. Huber, Glen Edgar Edgerton, Lars R. Jorgensen, and Fred A. Noetzli. 1545.

#### AUTOMOBILES.

"Automobile Hazard in Cities and Its Reduction." William J. Cox. (With Discussion.) 1.

"Relation of Road Type to Tire Wear." O. L. Waller and H. E. Phelps. (With Discussion.) 854.

"The Relation of Highway Transportation to the Railway." Ralph Budd. (With Discussion.) 394.

#### BLASTING.

— for the Moffat Tunnel. 83.

#### BOILERS.

"Civil Engineering Features of the Hell Gate Station." Ernest M. Van Norden, and George A. Hughes. (With Discussion.) 113.

"The Civil Engineering Features of the Kearny Power Station." Roman von Fabrice. (With Discussion.) 144.

**BRIDGES.**

Swing span, or revolving crane, emergency dam, Inner Navigation Canal, New Orleans. 1602.

"The Eye-Bar Cable Suspension Bridge at Florianopolis, Brazil." D. B. Steinman and William G. Grove. (With Discussion.) 266.

**CABLES.**

"Aerial Tramways." F. C. Carstarphen. (With Discussion.) 875.

"The Eye-Bar Cable Suspension Bridge at Florianopolis, Brazil." D. B. Steinman and William G. Grove. (With Discussion.) 266.

**CABLEWAYS.**

"Aerial Tramways." F. C. Carstarphen. 875. Discussion: Robert C. Strachan, George Paaswell, and Casper D. Meals. 957.

Skyline methods used for logging. 486.

**CAMPS.**

"Builders, Defenders, and Political Despoilers of Our Country": Address at the Annual Convention at Buffalo, N. Y., July 18, 1928. Lincoln Bush. 1646.

**CANALS.**

"Emergency Dam on Inner Navigation Canal at New Orleans, Louisiana." Henry Goldmark. (With Discussion.) 1589.

"Side Spillways for Regulating Diversion — ." W. H. R. Nimmo. (With Discussion.) 1561.

"The Lake Washington Ship Canal, Washington." W. J. Barden and A. W. Sargent. 1001. Discussion: Ernest B. Hussey, Charles Evan Fowler, Joseph M. Clapp, and L. C. Sabin. 1030.

**CANTONMENTS.**

*See CAMPS.*

**CITIES.**

"Automobile Hazard in — and Its Reduction." William J. Cox. (With Discussion.) 1.

"Forecast: The Regional Community of the Future." Thomas Adams. (With Discussion.) 1146.

"History of Seattle." 1042.

*See also CITY PLANNING.*

**CITY PLANNING.**

"Automobile Hazard in Cities and Its Reduction." William J. Cox. (With Discussion.) 1.

"Basic Information Needed for a Regional Plan." Harold M. Lewis. 1056. Discussion: Russell V. Black, George F. Unger, Arthur A. Shurtliff, Hale J. Walker, Joseph W. Shirley, Guy Wilfrid Hayler, William Bowie, Howard Strong, Charles W. Eliot, 2d, U. N. Arthur, Charles Wellford Leavitt, Harland Bartholomew, Donald M. Baker, and Harry J. March. 1065.

- "Cultural Opportunities in Regional Planning." Andrew Wright Crawford. (With Discussion.) 1122.
- "Forecast: The Regional Community of the Future." Thomas Adams. (With Discussion.) 1146.
- "Housing and the Regional Plan." John Ihlder. (With Discussion.) 1098.
- "Preparing the Groundwork for a City: The Regrading of Seattle, Washington." Arthur H. Dimock. 717. Discussion: Charles Evan Fowler. 734.
- "Re-Arrangement of a Business District: Changes in Recent Years in Pittsburgh, Pennsylvania." Nathan Schein. 735. Discussion: Edwin K. Morse, and Francis J. Mulvihill. 751.
- "The Planning of the Industrial City of Longview, Washington." S. Herbert Hare. 755. Discussion: B. L. Lambuth, and Brookes Baker. 763.

**COAST.**

- "Surveys on the — of New Jersey." Victor Gelineau. (With Discussion.) 1501.

**COMMERCE.**

- "The Work of the Port of Seattle, Washington." George F. Cotterell. (With Discussion.) 1041.

**CONCRETE.**

- "Problems in — Dam Construction on the Pacific Coast." Arthur S. Bent. (With Discussion.) 1400.

**CONTRACTORS' PLANT.**

- "Problems in Concrete Dam Construction on the Pacific Coast." Arthur S. Bent. (With Discussion.) 1400.

**CONTRACTS.**

- Form of contract for the Moffat Tunnel. 70.

**CRANES AND DERRICKS.**

- Revolving crane, emergency dam, Inner Navigation Canal, New Orleans. 1602.

**CULVERTS.**

- "The Hydraulic Design of Flume and Siphon Transitions." Julian Hinds. (With Discussion.) 1423.

**CURRENTS.**

- See OCEAN CURRENTS.*

**DAMS.**

- "A Graphic Method for Determining the Stresses in Circular Arches under Normal Loads by the Cain Formulas." Frederick Hall Fowler. (With Discussion.) 1512.

- "Earth Work by the Hydraulic Method." Roy E. Miller. (With Discussion.) 1413.

"Emergency Dam on Inner Navigation Canal at New Orleans, Louisiana." Henry Goldmark. 1589. Discussion: F. R. Harris, R. H. Whitehead, R. O. Comer, W. J. Barden, Roger D. Black, Samuel McC. Young, and T. B. Mönniche. 1616.

"Notes on Arched Gravity —." B. F. Jakobsen. 766. Discussion: George R. Rich, A. Floris, Lars R. Jorgensen, P. Wilhelm Werner, Paul Bauman, William Cain, F. W. Hanna, E. W. Kramer, A. J. Wiley, W. P. Creager, Edward Godfrey, and C. A. P. Turner. 774.

"Problems in Concrete Dam Construction on the Pacific Coast." Arthur S. Bent. 1400. Discussion: Arthur P. Davis, M. M. O'Shaughnessy, R. A. Hill, and Fred A. Noetzli. 1406.

"The Lake Washington Ship Canal, Washington." W. J. Barden and A. W. Sargent. (With Discussion.) 1001.

## DISEASE.

Historical review of development of control of — bearing mosquitoes. J. A. LePrince. 1259.

## DRAINAGE.

Disposal of — from coal mines. Andrew B. Crichton. 1332.

Historical notes on land — in the United States. S. H. McCrory. 1250.

Sewerage and — of towns. Harrison P. Eddy. 1225.

"The Sewage Disposal Problem of Los Angeles, California." Willis T. Knowlton. (With Discussion.) 984.

"The Work of the Los Angeles County (California) Sanitation Districts." Albert K. Warren. 995.

## DRAW-BRIDGES.

Swing span, or revolving crane, emergency dam, Inner Navigation Canal, New Orleans. 1602.

## DREDGES.

*See DREDGING.*

## DREDGING.

"Earth Work by the Hydraulic Method." Roy E. Miller. (With Discussion.) 1413.

## DRILLING.

"The Shandaken Tunnel." R. W. Gausmann. (With Discussion.) 233.

## EARTHWORK.

"— by the Hydraulic Method." Roy E. Miller. (With Discussion.) 1413.

## ELECTRIC POWER PLANTS.

*See POWER PLANTS.*

## EMBANKMENT.

"Preparing the Groundwork for a City: The Regrading of Seattle, Washington." Arthur H. Dimock. (With Discussion.) 717.

**ENGINEERING.**

"Builders, Defenders, and Political Despoilers of Our Country": Address at the Annual Convention at Buffalo, N. Y., July 18, 1928. Lincoln Bush. 1646.

"The Logging and Lumbering Interests of the Pacific Northwest": A Symposium. J. J. Donovan, Walter J. Ryan, K. Berger, Ulysses B. Hough, H. G. Cowling, W. T. Evenson, Bror L. Grondal, L. D. Beach, E. T. Allen, and J. B. Woods. (With Discussion.) 459.

**EXCAVATION.**

*See HYDRAULIC EXCAVATION.*

**EXPLOSIVES.**

— used on the Shandaken Tunnel. 245.

**EYE-BARS.**

"The Eye-Bar Cable Suspension Bridge at Florianopolis, Brazil." D. B. Steinman and William G. Grove. (With Discussion.) 266.

**FINANCE.**

"Some Phases of Irrigation —." D. C. Henny. (With Discussion.) 541.

**FLUMES.**

Logging —. 493.

"Side Spillways for Regulating Diversion Canals." W. H. R. Nimmo. (With Discussion.) 1561.

"The Hydraulic Design of Flume and Siphon Transitions." Julian Hinds. 1423. Discussion: H. B. Mucklestone, F. Theodore Mavis, W. H. R. Nimmo, and Carl Rohwer. 1460.

**FORESTS.**

Economic aspects of reforestation. 526.

Reforestation. 531.

**GARBAGE DISPOSAL.**

*See REFUSE DISPOSAL.*

**GRADES.**

"Preparing the Groundwork for a City: The Regrading of Seattle, Washington." Arthur H. Dimock. (With Discussion.) 717.

"Re-Arrangement of a Business District: Changes in Recent Years in Pittsburgh, Pennsylvania." Nathan Schein. (With Discussion.) 735.

**GRAPHIC STATICS.**

"A Graphic Method for Determining the Stresses in Circular Arches under Normal Loads by the Cain Formulas." Frederick Hall Fowler. (With Discussion.) 1512.

**GROUTING.**

— the Shandaken Tunnel. 255.

**HARBORS.**

"Emergency Dam on Inner Navigation Canal at New Orleans, Louisiana." Henry Goldmark. (With Discussion.) 1589.

"Stream Pollution in the Pacific Northwest." William F. Allison. (With Discussion.) 974.

"The Lake Washington Ship Canal, Washington." W. J. Barden and A. W. Sargent. (With Discussion.) 1001.

"The Work of the Port of Seattle, Washington." George F. Cotterill. 1041. Discussion: D. W. McMorris, Joseph M. Clapp, and Charles Evan Fowler. 1053.

**HEALTH.**

Historical review of development of control of disease-bearing mosquitoes. J. A. LePrince. 1259.

**HIGHWAYS.**

"The Relation of Highway Transportation to the Railway." Ralph Budd. (With Discussion.) 394.

"Urban and Interurban Buses." Britton I. Budd. (With Discussion.) 434. See also **ROADS**.

**HOISTING MACHINERY.**

— for handling the girders of the emergency dam, Inner Navigation Canal, New Orleans. 1605.

**HOUSING.**

— and the Regional Plan." John Ihlder. (With Discussion.) 1098.

**HYDRAULIC EXCAVATION.**

"Preparing the Groundwork for a City: The Regrading of Seattle, Washington." Arthur H. Dimock. (With Discussion.) 717.

**HYDRAULIC FILLING.**

"Earth Work by the Hydraulic Method." Roy E. Miller. 1413. Discussion: DeWitt D. Barlow, and William Gerig. 1420.

**INCLINED RAILWAYS.**

Logging inclines. 499.

**INSURANCE.**

"Automobile Hazard in Cities and Its Reduction." William J. Cox. (With Discussion.) 1.

**INTERURBAN RAILWAYS.**

"Urban and Interurban Buses." Britton I. Budd. (With Discussion.) 434.

**IRRIGATION.**

- "Some Phases of — Finance." D. C. Henny. 541. Discussion: M. C. Hinderlider, C. E. Grunsky, Joseph Jacobs, H. F. Dunham, F. H. Newell, J. C. Stevens, R. P. Teele, J. L. Burkholder, and Morrough P. O'Brien. 558.  
 "State Reclamation in Washington." R. K. Tiffany. 582. Discussion: James Rhea Luper, W. G. Swendsen, J. C. Stevens, O. L. Waller, Joseph Jacobs, and F. H. Newell. 594.

**LAKES.**

- "Stream Pollution in the Pacific Northwest." William F. Allison. (With Discussion.) 974.

**LAND RECLAMATION.**

- Historical notes on land drainage in the United States. S. H. McCrory. 1250.

**LOCK-GATES.**

- "Emergency Dam on Inner Navigation Canal at New Orleans, Louisiana." Henry Goldmark. (With Discussion.) 1589.  
 — of the Lake Washington Ship Canal. 1008.

**LOCKS.**

- "Emergency Dam on Inner Navigation Canal at New Orleans, Louisiana." Henry Goldmark. (With Discussion.) 1589.  
 "The Lake Washington Ship Canal, Washington." W. J. Barden and A. W. Sargent. (With Discussion.) 1001.

**LOCOMOTIVES.**

- "Water Supply for Army Railways in France." Paul M. LaBach. (With Discussion.) 198.

**LOGGING.**

- "The — and Lumbering Interests of the Pacific Northwest": A Symposium. J. J. Donovan, Walter J. Ryan, K. Berger, Ulysses B. Hough, H. G. Cowling, W. T. Evenson, Bror L. Grondal, L. D. Beach, E. T. Allen, and J. B. Woods. 459. Discussion: Roland H. Stock, Hugo Winkenwerder, C. S. Chapman, and Wesley Vandercook. 536.

**LUMBER.**

*See* **TIMBER.**

**MAPPING.**

*See* **MAPS.**

**MAPS.**

- "Basic Information Needed for a Regional Plan." Harold M. Lewis. (With Discussion.) 1056.  
 "Surveying and Mapping in the United States." C. H. Birdseye. (With Discussion.) 1486.

## MEMOIRS OF DECEASED MEMBERS.

- Allison, James Ekin. 1662.  
 Anderson, Charles Irving. 1664.  
 Archibald, Warren Martin. 1666.  
 Aylett, Philip. 1757.  
 Baldwin, Thomas Williams. 1668.  
 Barnes, Thomas Howard. 1670.  
 Bent, Cornelius Conway Felton. 1673.  
 Bryan, Charles Walter. 1675.  
 Bulkeley, Oscar Ernest. 1759.  
 Carpenter, George Ansel. 1678.  
 Carroll, Mott Titus. 1799.  
 Colnon, Redmond Stephen. 1680.  
 Currey, Jesse Albert. 1791.  
 Darrach, Charles Gobrecht. 1681.  
 Dubuis, John. 1761.  
 Eastham, Robert Francis. 1683.  
 Emerson, George Dana. 1684.  
 Ericson, John Ernst. 1686.  
 Finley, William Henry. 1688.  
 Fitzgerald, Desmond. 1656.  
 Gamble, Francis Clarke. 1691.

Goodell, John Milton. 1793.  
Green, Hubert Edward. 1693.

51111

- Green, Hubert Edward. 1693.  
Haines, Henry Stevens. 1695.  
Hammatt, Edward Augustus White. 1698.

MISCELLANEOUS

- Harper, Henry Garner. 1762.  
Harwood, George Alec. 1700.  
Hosmer, Guy Frederic. 1764.  
Howland, Benjamin Franklin. 1702.

- |                              |       |
|------------------------------|-------|
| Hunter, Joseph Wray.         | 1704. |
| Jameson, Charles Davis.      | 1706. |
| Judd, Wilber Macaulay.       | 1708. |
| Judson, Charles Albert.      | 1710. |
| Keith, George Thomas.        | 1712. |
| Lally, John Michael.         | 1795. |
| Macartney, Thomas Wakefield. | 1766. |

MOTOR TRUCKS

- MacBain, James Roy. 1708.  
McMinn, Thomas James. 1714.  
Maitland, Alexander, Jr. 1716.  
Martinez y Rengifo, Conrado Eugenio. 1718.

ETIMOGRAFIJA

- Mather, Thomas Hoggan. 1724.  
Merrick, Howard B. 1769.  
O'Reilly, John De ~~De~~eux. 1726.

卷之三

- Patterson, John Curtis. 1729.  
Perkins, Frank William. 1731.  
Poetsch, Charles Julius. 1733.

Robinson, Robert Bruce. 1773.  
 Rosecrans, Merle William. 1735.  
 Rust, Charles Henry. 1737.  
 Sheridan, Howard Augustus. 1800.  
 Sleight, Reuben Benjamin. 1775.  
 Smith, Godfrey Lewis. 1739.  
 Smith, Ralph Jerome. 1778.  
 Snell, Harry Bronson. 1781.  
 Snyder, Hunter Imboden. 1782.  
 Somers, Robert Teeters. 1784.  
 Spencer, John Clark. 1741.  
 Spengler, Harry Thomas. 1786.  
 Spooner, Allen Newhall. 1743.  
 Sumner, Horace Augustus. 1745.  
 Tate, Robert L'Hommedieu. 1747.  
 Thompson, Clarence Hard. 1788.  
 Tripp, Oscar Holmes. 1749.  
 Wagner, Frank. 1789.  
 Wahlman, Petrus. 1750.  
 Welker, Philip Albert. 1752.  
 Wheeler, Levi Lockwood. 1754.

**MINING.**

Disposal of drainage from coal mines. Andrew B. Crichton. 1332.

**MOSQUITOES.**

Historical review of development of control of disease-bearing —. J. A. LePrince. 1259.

**MOTOR BUSES.**

"The Relation of Highway Transportation to the Railway." Ralph Budd. (With Discussion.) 394.  
 "Urban and Interurban Buses." Britton I. Budd. 434; Discussion: Robert P. Woods, Fred G. Buffe, B. H. Piepmeyer, C. E. Smith, Winters, Haydock, John W. Reid, Lucius S. Storrs, and Anson Marston. 440.

**MOTOR TRUCKS.**

"The Relation of Highway Transportation to the Railway." Ralph Budd. (With Discussion.) 394.

**OCEAN CURRENTS.**

"Tides and Their Engineering Aspects." G. T. Rude. (With Discussion.) 606.

**OIL REFINERIES.**

Treatment of wastes from —. Robert Spurr (Weston). 1329.

**PAPER AND PULP MILLS.**

Pulp and paper mill wastes. G. K. Spence. 1343.

MEMORIES OF DECESSED MEMBERS

Afford, James E. 1905

Anderson, George James. 1904

Anderson, Thomas Williams. 1902

Barnes, George Williams. 1908

Brown, George Quincy. 1902

Brown, George Watson. 1902

Bryant, George Wilson. 1906

Campbell, George A. 1902

Carroll, Marion Timm. 1900

Chase, George Sibley. 1901

Conrad, George Cooper. 1901

Davis, George Turner. 1904

Edwards, George F. 1902

Ferguson, George Turner. 1904

Gardner, George Turner. 1904

Garrison, George Turner. 1904

Hall, George Turner. 1904

Hawkins, George Turner. 1904

Hughes, George Turner. 1904

Jones, George Turner. 1904

Kellogg, George Turner. 1904

Ladd, George Turner. 1904

Long, George Turner. 1904

McGraw, George Turner. 1904

McKee, George Turner. 1904

**PARKS AND PARKWAYS.**

"Cultural Opportunities in Regional Planning." Andrew Wright Crawford. (With Discussion.) 1122.

**PORTS.**

*See HARBORS.*

**POWER PLANTS.**

"Civil Engineering Features of the Hell Gate Station." Ernest M. Van Norden and George A. Hughes. 113. Discussion: George A. Orrok, and A. Streiff. 142.

"The Civil Engineering Features of the Kearny Power Station." Roman von Fabrice. 144. Discussion: George A. Orrok. 197.

**POWER TRANSMISSION.**

Electrification of logging and mill equipment. 515.

"The Civil Engineering Features of the Kearny Power Station." Roman von Fabrice. (With Discussion.) 144.

**RAFTS.**

Ocean log —. 505.

**RAILROADS.**

"Construction Methods on the Moffat Tunnel." R. H. Keays. (With Discussion.) 63.

Logging —. 471.

"The Relation of Highway Transportation to the Railway." Ralph Budd. 394. Discussion: John V. Hanna, E. A. Hadley, F. G. Jonah, W. W. Crosby, William T. Lyle, and M. H. Gerry, Jr. 414.

"Urban and Interurban Buses." Britton I. Budd. (With Discussion.) 434.

"Water Supply for Army Railways in France." Paul M. LaBach. (With Discussion.) 198.

**REFORESTATION.**

*See FORESTS.*

**REFUSE DISPOSAL.**

"Industrial Waste Disposal": A Symposium. W. L. Stevenson, Robert Spurr Weston, Andrew B. Crichton, G. K. Spence, and Wilhelm Howalt and Edwin S. Cavett. (With Discussion.) 1325.

"Stream Pollution in the Pacific Northwest." William F. Allison. (With Discussion.) 974.

Street cleaning and the collection and disposal of refuse. Samuel A. Greeley. 1240.

**REGIONAL PLANNING.**

"Basic Information Needed for a Regional Plan." Harold M. Lewis. (With Discussion.) 1056.

- "Cultural Opportunities in —." Andrew Wright Crawford. 1122. Discussion: Henry V. Hubbard, James Sturgis Pray, Noulan Cauchon, E. M. Bassett, Jacob L. Crane, Jr., Charles Wellford Leavitt, Morris Knowles, Harold M. Lewis, R. H. Randall, C. H. Howell, Charles W. Eliot, 2d, Winters Haydock, Gilmore D. Clarke, Harry J. March, John Ihlder, and Joseph Barnett. 1130.
- "Forecast: The Regional Community of the Future." Thomas Adams. 1146. Discussion: Robert Kingery, Howard Strong, William J. Wilgus, Frederic H. Fay, William T. Lyle, Charles Wellford Leavitt, and Morris Knowles. 1157.
- "Housing and the Regional Plan." John Ihlder. 1098. Discussion: James Ford, Benjamin H. Ritter, Bernard J. Newman, Bleeker Marquette, W. C. Rice, E. M. Bassett, Frank B. Williams, and U. S. Grant, 3d. 1109.

#### RIVERS.

- "Stream Pollution in the Pacific Northwest." William F. Allison. (With Discussion.) 974.

#### ROADS.

- "Modern Crushed Stone and Gravel Surfacing." J. W. Hoover. 845. Discussion: Roy A. Klein, C. H. Purcell, and O. E. Stanley. 849.
- "Relation of Road Type to Tire Wear." O. L. Waller and H. E. Phelps. 854. Discussion: Troy Carmichael. 872.
- "The History and Development of Road Building in the United States." Thomas H. MacDonald. 1181.

#### ROPE DRIVING.

- "Aerial Tramways." F. C. Carstarphen. (With Discussion.) 875.

#### SAND.

- Undesirability of manufacturing —. 1406.

#### SANITARY ENGINEERING.

- "Historic Review of the Development of — in the United States During the Past One Hundred and Fifty Years": A Symposium. George W. Fuller, Harrison P. Eddy, Samuel A. Greeley, S. H. McCrory, J. A. LePrince, and George Truman Palmer. 1207. Discussion: James W. Armstrong, J. W. Ellms, Caleb Mills Saville, M. M. O'Shaughnessy, Morris Knowles, George H. Fenkell, Harry G. Payrow, W. Kiersted, John H. Gregory, Karl Imhoff, Kenneth Allen, George S. Webster, L. L. Tribus, N. T. Veatch, Jr., Arthur E. Morgan, Arthur M. Shaw, W. B. Gregory, R. A. Hart, L. L. Hidinger, Roy N. Towl, E. R. Jones, H. F. Gray, James E. Brooks, W. G. Stromquist, Thornton Lewis, Samuel R. Lewis, and Leonard Greenburg. 1271.

#### SAW-MILLS.

- Electrification of logging and mill equipment. 515.

- The engineering aspects of saw-mill construction and operation. 509.

**SEWAGE DISPOSAL.**

- Sewerage and drainage of towns. Harrison P. Eddy. 1225.  
 "Stream Pollution in the Pacific Northwest." William F. Allison. (With Discussion.) 974.  
 "The — Problem of Los Angeles, California." Willis T. Knowlton. 984.  
 Discussion: A. M. Rawn. 992.  
 "The Work of the Los Angeles County (California) Sanitation Districts." Albert K. Warren. 995.

**SEWERAGE.**

- and drainage of towns. Harrison P. Eddy. 1225.  
 "The Sewage Disposal Problem of Los Angeles, California." Willis T. Knowlton. (With Discussion.) 984.  
 "The Work of the Los Angeles County (California) Sanitation Districts." Albert K. Warren. 995.

**SHAFTS.**

- of the Shandaken Tunnel. 236.

**SHIP CANALS.**

*See CANALS.*

**SIPHONS.**

- "The Hydraulic Design of Flume and Siphon Transitions." Julian Hinds. (With Discussion.) 1423.

**SOILS.**

- Laboratory tests of — to determine suitability for hydraulic fill. 1414.

**SPILLWAYS.**

- "Side — for Regulating Diversion Canals." W. H. R. Nimmo. 1561. Discussion: Edward S. Lindley, A. P. Flockart, and George M. Bacon. 1585.

The spillway dam of the Lake Washington Ship Canal. 1006.

**STEAM.**

- "Civil Engineering Features of the Hell Gate Station." Ernest M. Van Norden and George A. Hughes. (With Discussion.) 113.  
 "The Civil Engineering Features of the Kearny Power Station." Roman von Fabrice. (With Discussion.) 144.

**STEAM TURBINES.**

*See TURBINES (STEAM).*

**STEEL.**

- "The Eye-Bar Cable Suspension Bridge at Florianopolis, Brazil." D. B. Steinman and William G. Grove. (With Discussion.) 266.

**STREAM CONTAMINATION.**

- "Industrial Waste Disposal": A Symposium. W. L. Stevenson. Robert Spurr Weston, Andrew B. Crichton, G. K. Spence, and Wilhelm Howalt and Edwin S. Cavett. (With Discussion.) 1325.
- "Stream Pollution in the Pacific Northwest." William F. Allison. 974. Discussion: William J. Roberts, Augustus Smith, A. H. Dimock, and Kenneth Allen. 979.

**STREAMS.**

*See RIVERS.*

**STREET CLEANING.**

*See REFUSE DISPOSAL.*

**STREET GRADES.**

*See GRADES.*

**STREET RAILWAYS.**

"Urban and Interurban Buses." Britton I. Budd. (With Discussion.) 434.

**STREETS.**

"Preparing the Groundwork for a City: The Regrading of Seattle, Washington." Arthur H. Dimock. (With Discussion.) 717.

"Re-Arrangement of a Business District: Changes in Recent Years in Pittsburgh, Pennsylvania." Nathan Schein. (With Discussion.) 735.

**STRESS.**

"A Graphic Method for Determining the Stresses in Circular Arches under Normal Loads by the Cain Formulas." Frederick Hall Fowler. (With Discussion.) 1512.

"Aerial Tramways." F. C. Carstarphen. (With Discussion.) 875.

"Notes on Arched Gravity Dams." B. F. Jakobsen. (With Discussion.) 766.

**SURVEYING.**

"Basic Information Needed for a Regional Plan." Harold M. Lewis. (With Discussion.) 1056.

"Surveying and Mapping in the United States." C. H. Birdseye. 1486. Discussion: T. P. Pendleton, C. L. Hall, and John C. H. Lee. 1495.

"Surveys on the Coast of New Jersey." Victor Gelineau. 1501. Discussion: C. V. Hodgson. 1510.

**SURVEYS.**

*See SURVEYING.*

**SUSPENSION BRIDGES.**

"The Eye-Bar Cable Suspension Bridge at Florianopolis, Brazil." D. B. Steinman and William G. Grove. 266. Discussion: J. A. L. Waddell, Spencer Miller, Lloyd G. Frost, C. G. Emil Larsson, Clyde T. Morris,

V. R. Covell, T. J. Wilkerson, and A. D. Nutter, Frederick C. Carstarphen,  
A. de H. Hoadley, F. N. Menefee, T. Kuo, Leon S. Moisseiff, R. McC.  
Beanfield, Charles F. Stowell, and Hardy Cross. 343.

#### TANNERIES.

Studies of tannery waste disposal. Wilhelm Howalt and Edwin S. Cavett. 1351.

#### TAXATION.

Equitable — for common carrier motor vehicles. 405, 415, 418.

#### TIDES.

"— and Their Engineering Aspects." G. T. Rude. 606. Discussion: Lewis M. Haupt, H. de B. Parsons, R. L. Faris, Earl I. Brown, Edward Godfrey, William Barclay Parsons, T. Kennard Thomson, H. F. Dunham, Ralph Bennett, Victor Gelineau, W. M. Black, Francisco J. Gastón, F. W. Scheidenhelm, Charles H. Lee and Harold F. Gray, and C. R. F. Coutlee. 672.

#### TIMBER.

"The Logging and Lumbering Interests of the Pacific Northwest: A Symposium." J. J. Donovan, Walter J. Ryan, K. Berger, Ulysses B. Hough, H. G. Cowling, W. T. Evenson, Bror L. Grondal, L. D. Beach, E. T. Allen, and J. B. Woods. (With Discussion.) 459.

#### TOWERS.

Use of rocker — on the Florianopolis Bridge. 282, 306, 321.

#### TRADE WASTE.

"Industrial Waste Disposal": A Symposium. W. L. Stevenson, Robert Spurr Weston, Andrew E. Crichton, G. K. Spence, and Wilhelm Howalt and Edwin S. Cavett. 1325. Discussion: Edmund B. Besslievre, George W. Fuller, and Almon L. Fales. 1389.

#### TRAFFIC.

"Automobile Hazard in Cities and Its Reduction." William J. Cox. (With Discussion.) 1.

"Basic Information Needed for a Regional Plan." Harold M. Lewis. (With Discussion.) 1056.

"The Relation of Highway Transportation to the Railway." Ralph Budd. (With Discussion.) 394.

— on the Lake Washington Ship Canal. 1027.

"Urban and Interurban Buses." Britton I. Budd. (With Discussion.) 434.

#### TRAMWAYS.

See CABLEWAYS.

**TRANSPORTATION.**

- "The Relation of Highway — to the Railway." Ralph Budd. (With Discussion.) 394.  
 "Urban and Interurban Buses." Britton I. Budd. (With Discussion.) 434.

**TRUSSES.**

- New type of stiffening truss used in Florianopolis Bridge. 271, 310, 328.

**TUNNELS.**

- "Construction Methods on the Moffat Tunnel." R. H. Keays. 63. Discussion: T. Kennard Thomson, H. F. Dunham, and Lazarus White. 110.  
 "The Shandaken Tunnel." R. W. Gausmann. 233. Discussion: W. W. Brush, and Charles Goodman. 260.

**TURBINES (STEAM).**

- "Civil Engineering Features of the Hell Gate Station." Ernest M. Van Norden and George A. Hughes. (With Discussion.) 113.  
 "The Civil Engineering Features of the Kearny Power Station." Roman von Fabrice. (With Discussion.) 144.

**VENTILATION.**

- Changing conceptions of — since the Eighteenth Century. George Truman Palmer. 1263.  
 — of the Moffat Tunnel. 89.  
 — of the Shandaken Tunnel. 246.

**WASTE DISPOSAL.**

*See REFUSE DISPOSAL: SEWAGE DISPOSAL: TRADE WASTE.*

**WATER.**

- "— Supply for Army Railways in France." Paul M. LaBach. 198. Discussion: Charles H. Lee, and William G. Atwood. 221.

**WATER, FLOW OF, IN OPEN CHANNELS.**

- "Side Spillways for Regulating Diversion Canals." W. H. R. Nimmo. (With Discussion.) 1561.  
 "The Hydraulic Design of Flume and Siphon Transitions." Julian Hinds. (With Discussion.) 1423.

**WATER, FLOW OF, IN PIPES.**

- "The Hydraulic Design of Flume and Siphon Transitions." Julian Hinds. (With Discussion.) 1423.

**WATER, FLOW OF, OVER DAMS.**

- "Side Spillways for Regulating Diversion Canals." W. H. R. Nimmo. (With Discussion.) 1561.

**WATER-WORKS.**

- "The Shandaken Tunnel." R. W. Gausmann. (With Discussion.) 233.  
—. George W. Fuller. 1209.

**WAVES.**

- "Tides and Their Engineering Aspects." G. T. Rude. (With Discussion.)  
606.

**WORLD WAR.**

- "Builders, Defenders, and Political Despoilers of Our Country": Address at  
the Annual Convention at Buffalo, N. Y., July 18, 1928. Lincoln Bush.  
1646.  
"Water Supply for Army Railways in France." Paul M. LaBach. (With  
Discussion.) 198.

**ZONING OF CITIES.**

- "Basic Information Needed for a Regional Plan." Harold M. Lewis. (With  
Discussion.) 1056.  
"Housing and the Regional Plan." John Ihlder. (With Discussion.) 1098.  
"The Planning of the Industrial City of Longview, Washington." S. Herbert  
Hare. (With Discussion.) 755.

AUTHOR INDEX

**ADAMS, THOMAS.**

"Forecast of The Regional Community of the Future." 1146.

**ALLEN, E. T.**

"Economic Aspects of Reforestation." 526.

**ALLEN, KENNETH.**

Development of sanitary engineering. 1292.

Stream pollution in the Pacific Northwest. 983.

**ALLISON, JAMES EKIN.**

Memoir of. 1662.

**ALLISON, WILLIAM F.**

"Stream Pollution in the Pacific Northwest." 974.

**ANDERSON, CHARLES IRVING.**

Memoir of. 1664.

**ARCHIBALD, WARREN MARTIN.**

Memoir of. 1666.

**ARMSTRONG, JAMES W.**

Development of sanitary engineering. 1271.

**ARTHUR, U. N.**

Basic information for regional plan. 1084.

**ATWOOD, WILLIAM G.**

Water supply for army railways. 226.

**AYLETT, PHILIP.**

Memoir of. 1757.

**BACON, GEORGE M.**

Side spillways for diversion canals. 1587.

**BAKER, BROOKES.**

The planning of Longview, Washington. 764.

**BAKER, DONALD M.**

Basic information for regional plan. 1091.

**BALDWIN, THOMAS WILLIAMS.**

Memoir of. 1668.

**BARBER, A. B.**

Automobile hazard and its reduction. 56.

**BARDEN, W. J.**

Emergency dam on New Orleans Canal. 1621.

"The Lake Washington Ship Canal, Washington." 1001.

**BARLOW, De WITT D.**

Earth work by the hydraulic method. 1420.

**BARNES, THOMAS HOWARD.**

Memoir of. 1670.

**BARNETT, JOSEPH.**

Culture and the regional plan. 1143.

**BARTHOLOMEW, HARLAND.**

Basic information for regional plan. 1090.

**BASSETT, E. M.**

Culture and the regional plan. 1134.

Housing and the regional plan. 1117.

**BAUMAN, PAUL.**

Notes on arched gravity dams. 786.

**BEACH, L. D.**

"Electrification of Logging and Mill Equipment." 515.

**BEANFIELD, R. McC.**

Florianopolis Eye-Bar Suspension Bridge. 369.

**BENNETT, RALPH.**

Tides and their engineering aspects. 688.

**BENT, ARTHUR S.**

"Problems in Concrete Dam Construction on the Pacific Coast." 1400.

**BENT, CORNELIUS CONWAY FELTON.**

Memoir of. 1673.

**BERGER, K.**

"Skyline Methods Used for Logging." 486.

BESSERERIAN, EDMUND R.

"Engineering methods developed 1930."

BIRDSEYE, C. H.

"Engineering and planning of air

BLACK, ROGER D.

"Engineering plan on

BLACK, RUSSELL A.

"Engineering plan for

BLACK, W. M.

"Engineering plan to

BOWIE, WILLIAM.

"Engineering plan to develop

BROOKS, JAMES R.

"Engineering plan to

BROWN, EARL I.

"Engineering plan to

BRUSH, W. W.

"Engineering plan to

BRYAN, CHARLES MALTRE

"Engineering plan to

BUDD, BRITTON L.

"Engineering plan to

BUDD, RALPH.

"Engineering plan to

BUNKEBORG, OSCAR LINNERT O.

"Engineering plan to

BURKHOLDER, OSCAR LINNERT O.

"Engineering plan to

BURKHOLDER, OSCAR LINNERT O.

"Engineering plan to

- BESSELIEVRE, EDMUND B.** *Salinity, Thomas Williams*  
Industrial waste disposal. 1389.
- BIRDSEYE, C. H.** *Birdseye, A. B.*  
"Surveying and Mapping in the United States." 1486.
- BLACK, ROGER D.** *Barlow, W. D.*  
Emergency dam on New Orleans Canal. 1622.
- BLACK, RUSSELL V.** *Barlow, D. W. D.*  
Basic information for regional plan. 1065.
- BLACK, W. M.** *Banks, Thomas Howard*  
Tides and their engineering aspects. 691.
- BOWIE, WILLIAM.** *Barnett, Joseph*  
Basic information for regional plan. 1082.
- BROOKS, JAMES E.** *Bartelot, William Harland*  
Development of sanitary engineering. 1311.
- BROWN, EARL I.** *Bassett, E. M.*  
Tides and their engineering aspects. 676.
- BRUSH, W. W.** *Bauam, Paul*  
The Shandaken Tunnel. 260.
- BRYAN, CHARLES WALTER.** *Beach, T. D.*  
Memoir of. 1675.
- BUDD, BRITTON I.** *Bennet, Richard K. McC.*  
"Urban and Interurban Buses." 434.
- BUDD, RALPH.** *Bennett, Ralph*  
"The Relation of Highway Transportation to the Railway." 394.
- BUFFE, FRED G.** *Bent Arthur S.*  
Urban and interurban buses. 444.
- BULKELEY, OSCAR ERNEST.** *Bent, Cornelia Comway Bellon*  
Memoir of. 1759.
- BURKHOLDER, J. L.** *Birkner, A.*  
Some phases of irrigation finance. 572.

**BUSH, LINCOLN.**

"Builders, Defenders, and Political Despoilers of Our Country": Address at the Annual Convention at Buffalo, N. Y., July 18, 1928. 1646.

**CAIN, WILLIAM.**

Formulas for stresses in circular arches. 1550.  
Notes on arched gravity dams. 795.

**CARMICHAEL, TROY.**

Relation of road type to tire wear. 872.

**CARPENTER, GEORGE ANSEL.**

Memoir of. 1678.

**CARROLL, MOTT TITUS.**

Memoir of. 1799.

**CARSTARPHEN, F. C.**

"Aerial Tramways." 875.

Florianopolis Eye-Bar Suspension Bridge. 352.

**CAUCHON, NOULAN.**

Culture and the regional plan. 1133.

**CAVETT, EDWIN S.**

"Studies of Tannery Waste Disposal." 1351.

**CHAPMAN, C. S.**

Logging and lumbering. 539.

**CLAPP, JOSEPH M.**

Lake Washington Ship Canal. 1033.

Work of the Port of Seattle, Washington. 1053.

**CLARKE, GILMORE D.**

Culture and the regional plan. 1141.

**COLE, W. GRAHAM.**

Automobile hazard and its reduction. 38.

**COLNON, REDMOND STEPHEN.**

Memoir of. 1680.

**COMER, R. O.**

Emergency dam on New Orleans Canal. 1619.

**COTTERILL, GEORGE F.**

"The Work of the Port of Seattle, Washington." 1041.

- COUTLEE, C. R. F.**  
"Tides and their engineering aspects." 709.
- COVELL, V. R.**  
Florianopolis Eye-Bar Suspension Bridge. 348.
- COWLING, H. G.**  
"Logging Inclines." 499.
- COX, WILLIAM J.**  
"Automobile Hazard in Cities and Its Reduction." 1.
- CRANE, JACOB L., Jr.**  
Culture and the regional plan. 1135.
- CRAWFORD, ANDREW WRIGHT.**  
"Cultural Opportunities in Regional Planning." 1122.
- CREAGER, W. P.**  
Notes on arched gravity dams. 825.
- CRICHTON, ANDREW B.**  
"Disposal of Drainage from Coal Mines." 1332.
- CROSBY, W. W.**  
Automobile hazard and its reduction. 49.  
Highway transportation and the railway. 423.
- CROSS, HARDY.**  
Florianopolis Eye-Bar Suspension Bridge. 374.
- CURREY, JESSE ALBERT.**  
Memoir of. 1791.
- DARRACH, CHARLES GOBRECHT.**  
Memoir of. 1681.
- DAVIS, ARTHUR P.**  
Concrete dam construction. 1406.
- DIMOCK, ARTHUR H.**  
"Preparing the Groundwork for a City: The Regrading of Seattle, Washington." 717.  
Stream pollution in the Pacific Northwest. 980.
- DONOVAN, J. J.**  
"The Engineer in the Lumber Industry." 460.

**DUBUIS, JOHN.**

Memoir of. 1761.

**EMERSON, GEORGE H.****DUNHAM, H. F.**

Construction methods on Moffat Tunnel. 111.

Some phases of irrigation finance. 563.

Tides and their engineering aspects. 685.

**LINCH, J. R.****EASTHAM, ROBERT FRANCIS.**

Memoir of. 1683.

**LITTLERED, DESMOND.****EDDY, HARRISON, P.**

"Historic Review of the Development of Sanitary Engineering in the United States During the Past One Hundred and Fifty Years: Introduction." 1208.

"Sewerage and Drainage of Towns." 1225.

**PINEY, WILLEM HENRY****EDGERTON, GLEN EDGAR.**

Formulas for stresses in circular arches. 1553.

**FLORIS, A.****ELDRIDGE, M. O.**

Automobile hazard and its reduction. 29.

**FORD, TOWER.****ELIOT, CHARLES W., 2d.**

Basic information for regional plan. 1083.

**FOOTER, CHARLES RAV.**

Culture and the regional plan. 1140.

**ELLMS, J. W.**

Development of sanitary engineering. 1272.

**FOOTER, ERIC ERICK HAN.****EMERSON, GEORGE DANA.**

Memoir of. 1684.

**GROST, FLOYD G.****ERICSON, JOHN ERNST.**

Memoir of. 1686.

**GUTTER, GEORGE W.****EVENSON, W. T.**

"Ocean Log Rafts." 505.

**HARVEY, FRANCIS CLARK.****FALES, ALMON L.**

Industrial waste disposal. 1394.

**GATSON, FRANCISCO J.****FARIS, R. L.**

Tides and their engineering aspects. 675.

**GARDMAN, R. W.****FAY, FREDERIC H.**

The regional community of the future. 1162.

**GAUDIUS, SPANISH**

**FENKELL, GEORGE H.**

Development of sanitary engineering. 1281.

**FINCH, J. K.**

Automobile hazard and its reduction. 41.

**FINLEY, WILLIAM HENRY.**

Memoir of. 1688.

**FITZGERALD, DESMOND.**

Memoir of 1656.

**FLOCKART, A. P.**

Side spillways for diversion canals. 1586.

**FLORIS, A.**

Notes on arched gravity dams. 775.

**FORD, JAMES.**

Housing and the regional plan. 1109.

**FOWLER, CHARLES EVAN.**

Lake Washington Ship Canal. 1031.

Regrading of Seattle, Washington. 734.

Work of the Port of Seattle, Washington. 1054.

**FOWLER, FREDERICK HALL.**

"A Graphic Method for Determining the Stresses in Circular Arches Under Normal Loads by the Cain Formulas." 1512.

**FROST, LLOYD G.**

Florianopolis Eye-Bar Suspension Bridge. 345.

**FULLER, GEORGE W.**

Industrial waste disposal. 1393.

"Water-Works." 1209.

**GAMBLE, FRANCIS CLARKE.**

Memoir of. 1691.

**GASTON, FRANCISCO J.**

Tides and their engineering aspects. 698.

**GAUSMANN, R. W.**

"The Shandaken Tunnel." 233.

**GELINEAU, VICTOR.**

"Surveys on the Coast of New Jersey," 1501.  
Tides and their engineering aspects. 689.

GROVER MELLISH, G.

**GERIG, WILLIAM.**

Earth work by the hydraulic method. 1421.

GRUNSKA, C. E.

**GERRY, M. H., Jr.**

Highway transportation and the railway. 426.

HARDY, E. A.

**GODFREY, EDWARD.**

Notes on arched gravity dams. 826.  
Tides and their engineering aspects. 677.

HAINES, HENRY STEPHENS.

Memoir of. 1596.

**GOLDMARK, HENRY.**

"Emergency Dam on Inner Navigation Canal at New Orleans, Louisiana." 1589.

HALL, C. T.

**GOODELL, JOHN MILTON.**

Memoir of. 1793.

HAMMATT, EDMUND AUGUSTUS WHITE.

Memoir of. 1796.

**GOODMAN, CHARLES.**

The Shandaken Tunnel. 262.

HANNA, E. W.

Notes on highway planning during 1900.

**GRANT, U. S., 3d.**

Housing and the regional plan. 1119.

HANNA, JOHN A.

1900.

**GRAY, HAROLD F.**

Development of sanitary engineering. 1310.  
Tides and their engineering aspects. 702.

HARRE, S. HERBERT.

1900.

**GREELEY, SAMUEL A.**

"Street Cleaning and the Collection and Disposal of Refuse." 1240.

HARPER, HENRY GARRETT.

Memoir of. 1595.

**GREEN, HUBERT EDWARD.**

Memoir of. 1693.

HART, R. A.

1900.

**GREENBURG, LEONARD.**

Development of sanitary engineering. 1317.

HARWOOD, GEORGE ALICE.

1900.

**GREGORY, JOHN H.**

Development of sanitary engineering. 1291.

HAWTHORPE, LEWIS W.

1900.

**GREGORY, W. B.**

Development of sanitary engineering. 1305.

HYDROCK, WINTERS.

1900.

**GRONDAL, BROR L.**

"The Engineering Aspects of Saw-Mill Construction and Operation." 509.

**GROVE, WILLIAM G.**

"The Eye-Bar Cable Suspension Bridge at Florianopolis, Brazil." 266.

**GRUNSKY, C. E.**

Some phases of irrigation finance. 561.

**HADLEY, E. A.**

Highway transportation and the railway. 417.

**HAINES, HENRY STEVENS.**

Memoir of. 1695.

**HALL, C. L.**

Surveying and mapping in the United States. 1497.

**HAMMATT, EDWARD AUGUSTUS WHITE.**

Memoir of. 1698.

**HANNA, F. W.**

Notes on arched gravity dams. 799.

**HANNA, JOHN V.**

Highway transportation and the railway. 414.

**HARE, S. HERBERT.**

"The Planning of the Industrial City of Longview, Washington." 755.

**HARPER, HENRY GARNER.**

Memoir of. 1762.

**HARRIS, F. R.**

Emergency dam on New Orleans Canal. 1616.

**HART, R. A.**

Development of sanitary engineering. 1306.

**HARWOOD, GEORGE ALEC.**

Memoir of. 1700.

**HAUPT, LEWIS M.**

Tides and their engineering aspects. 672.

**HAYDOCK, WINTERS.**

Culture and the regional plan. 1140.

Urban and interurban buses. 452.

**HAYLER, GUY WILFRID.**

Basic information for regional plan. 1078.

**HENNY, D. C.**

"Some Phases of Irrigation Finance." 541.

**HIDINGER, L. L.**

Development of sanitary engineering. 1306.

**HILL, R. A.**

Concrete dam construction. 1408.

**HINDERLIDER, M. C.**

Some phases of irrigation finance. 558.

**HINDS, JULIAN.**

"The Hydraulic Design of Flume and Siphon Transitions." 1423.

**HOADLEY, A. de H.**

Florianopolis Eye-Bar Suspension Bridge. 360.

**HODGSON, C. V.**

Surveys on the New Jersey Coast. 1510.

**HOLLERAN, L. G.**

Automobile hazard and its reduction. 33.

**HOOVER, J. W.**

"Modern Crushed Stone and Gravel Surfacing." 845.

**HOSMER, GUY FREDERIC.**

Memoir of. 1764.

**HOUGH, ULYSSES B.**

"Logging Flumes." 493.

**HOWALT, WILHELM.**

"Studies on Tannery Waste Disposal." 1351.

**HOWELL, C. H.**

Culture and the regional plan. 1139.

**HOWLAND, BENJAMIN FRANKLIN.**

Memoir of. 1702.

**HUBBARD, HENRY V.**

Culture and the regional plan. 1130.

**HUEHL, WALTER L.**

Journal of the American Institute of Architects. 1901.

**HUGHES, GEORGE A.**

"City Improvement Finance." 1901.

**HUNTER, JOSEPH WRAY**

"History of the Civil Engineering Department of Cornell University." 1901.

**HUNSEY, ERNEST B.**

"The Application of Soil Mechanics to Civil Engineering." 1901.

**HUNDER JOHN**

"Quarries and the Construction of Roads." 1901.

**HUNTER, JULIAN**

"Design of Flume and Siphon Transitions." 1423.

**HUNTER, ROBERT L.**

"The Application of Soil Mechanics to Civil Engineering." 1901.

**JACOBS, LOEBEL**

"Some Points in Bridge Engineering." 1901.

**JAMESON, CHARLES DAVIS**

"Notes on Average Strength of Concrete." 1901.

**JOHANNESSEN, E.**

"Notes on the Strength of Concrete." 1901.

**JONES, E. G.**

"Highways, Bridges and Other Works." 1901.

**JONES, E. G.**

"Highways, Bridges and Other Works." 1901.

**JORGENSEN, IVAR K.**

"Notes on Strength of Concrete." 1901.

**JUDY, WILFRED WOODWARD**

"Notes on Strength of Concrete." 1901.

**JUDSON, CHARLES ALBERT**

"Notes on Strength of Concrete." 1901.

- HUBER, WALTER L.** HAYTER, GUY MELVILLE  
Formulas for stresses in circular arches. 1553.
- HUGHES, GEORGE A.** HENRY, D. C.  
"Civil Engineering Features of the Hell Gate Station." 113.
- HUNTER, JOSEPH WRAY.** HEDINGER, J. F.  
Memoir of. 1704.
- HUSSEY, ERNEST B.** HILT, R. A.  
Lake Washington Ship Canal. 1030.
- IHLDER, JOHN.** HINDREITER, W. C.  
Culture and the regional plan. 1143.  
"Housing and the Regional Plan." 1098.
- IMHOFF, KARL.** HINDE, JULIAN  
Development of sanitary engineering. 1291.
- JACOBS, JOSEPH.** HOADLEY, A. DE H.  
Some phases of irrigation finance. 562.  
State reclamation in Washington. 599.
- JAKOBSEN, B. F.** HODGSON, C. A.  
Formulas for stresses in circular arches. 1545.  
"Notes on Arched Gravity Dams." 766.
- JAMESON, CHARLES DAVIS.** HOOKE, F. W.  
Memoir of. 1706.
- JOHANNESSON, S.** HOWARD, GUY FREDERIC  
Automobile hazard and its reduction. 37.
- JONAH, F. G.** HOWCH, ULYSSES B.  
Highway transportation and the railway. 419.
- JONES, E. R.** HOWATT, WILLHELM.  
Development of sanitary engineering. 1309.
- JORGENSEN, LARS R.** HOWETZ, G. H.  
Formulas for stresses in circular arches. 1554.  
Notes on arched gravity dams. 779.
- JUDD, WILBER MACAULAY.** HOWARD, BENJAMIN BRANFORD  
Memoir of. 1708.
- JUDSON, CHARLES ALBERT.** HUNGERD, HENRY A.  
Memoir of. 1710.

- KEAYS, R. H.** LEAVITT, CHARLES MELTORD  
"Construction Methods on the Moffat Tunnel." 63.
- KEITH, GEORGE THOMAS.** LEE, CHARLES H.  
Memoir of. 1712.
- KELCEY, G. G.** LEE, JOHN C. H.  
Automobile hazard and its reduction. 43.
- KIERSTED, W.** LEE, JOHN C. H.  
Development of sanitary engineering. 1286.
- KINGERY, ROBERT.** LEWIS, HAROLD M.  
The regional community of the future. 1157.
- KIRBY, R. S.** LEWIS, SAMUEL R.  
Automobile hazard and its reduction. 51.
- KLEIN, ROY A.** LEWIS, THORNTON  
Crushed stone and gravel surfacing. 849.
- KNOWLES, MORRIS.** LINDBECK, EDMUND  
Culture and the regional plan. 1138.  
Development of sanitary engineering. 1279.  
The regional community of the future. 1169.
- KNOWLTON, WILLIS T.** LINDBECK, EDMUND  
"The Sewage Disposal Problem of Los Angeles, California." 984.
- KRAMER, E. W.** LUFTER, JAMES RHEA  
Notes on arched gravity dams. 809.
- KUO, T.** LYATT, WILLIAM T.  
Florianopolis Eye-Bar Suspension Bridge. 363.
- LaBACH, PAUL M.** LYNN, THOMAS WAKEFIELD  
"Water Supply for Army Railways in France." 198.
- LALLY, JOHN MICHAEL.** MAGARITY, THOMAS WAKEFIELD  
Memoir of. 1795.
- LAMBUTH, B. L.** McBEHEN, JAMES ROL.  
The planning of Longview, Washington. 763.
- LARSSON, C. G. EMIL.** McDONALD, THOMAS H.  
Florianopolis Eye-Bar Suspension Bridge. 346.

**LEAVITT, CHARLES WELLFORD.**

Basic information for regional plan. 1088.

Culture and the regional plan. 1136.

The regional community of the future. 1167.

**LEE, CHARLES H.**

Tides and their engineering aspects. 702.

Water supply for army railways. 221.

**LEE, JOHN C. H.**

Surveying and mapping in the United States. 1498.

**Le PRINCE, J. A.**

"Historical Review of Development of Control of Disease-Bearing Mosquitoes." 1259.

**LEWIS, HAROLD M.**

Automobile hazard and its reduction. 39.

"Basic Information Needed for a Regional Plan." 1056.

Culture and the regional plan. 1139.

**LEWIS, SAMUEL R.**

Development of sanitary engineering. 1317.

**LEWIS, THORNTON.**

Development of sanitary engineering. 1314.

**LINDLEY, EDWARD S.**

Side spillways for diversion canals. 1585.

**LUPER, JAMES RHEA.**

State reclamation in Washington. 594.

**LYLE, WILLIAM T.**

Automobile hazard and its reduction. 28.

Highway transportation and the railway. 424.

The regional community of the future. 1165.

**MACARTNEY, THOMAS WAKEFIELD.**

Memoir of. 1766.

**MacBEAN, JAMES ROY.**

Memoir of. 1768.

**MacDONALD, THOMAS H.**

"The History and Development of Road Building in the United States." 1181.

- McCRORY, S. H.** *MILLER, ROY E.*  
"Historical Notes on Land Drainage in the United States." 1250.
- McCROSKEY, THEODORE T.** *MILLER, SPENCER*  
Automobile hazard and its reduction. 50.
- McMINN, THOMAS JAMES.** *MORSE, LEO N. S.*  
Memoir of. 1714.
- McMORRIS, D. W.** *MORNING, T. R.*  
Work of the Port of Seattle, Washington. 1053.
- MAITLAND, ALEXANDER, Jr.** *MORGAN, ARTHUR E.*  
Memoir of. 1716.
- MARCH, HARRY J.** *MORRIS, CLYDE T.*  
Basic information for regional plan. 1093.  
Culture and the regional plan. 1142.
- MARQUETTE, BLECKER.** *MORSE, EDMUND R.*  
Housing and the regional plan. 1114.
- MARSTON, ANSON.** *MUCKERTH, H. R.*  
Urban and interurban buses. 455.
- MARTINEZ y RENGIFO, CONRADO EUGENIO.** *MULVANEY, FRANCIS J.*  
Memoir of. 1718.
- MARVIN, FRANK OLIN.** *MUNLEY, R. H.*  
Memoir of. 1720.
- MATHER, THOMAS HOGGAN.** *MURKIN, W. H. R.*  
Memoir of. 1724.
- MAVIS, F. THEODORE.** *MURKIN, BERNARD J.*  
Design of flume and siphon transitions. 1463.
- MEALS, CASPER D.** *MURRAY, J. R.*  
Aerial tramways. 962.
- MENEFEE, F. N.** *MURSTYL, ERIC A.*  
Florianopolis Eye-Bar Suspension Bridge. 362.
- MERRICK, HOWARD B.** *MURTH, A. D.*  
Memoir of. 1769.
- MILLER, JOHN A., Jr.** *MURRAY, MORRISON R.*  
Automobile hazard and its reduction. 47.

- MILLER, ROY E.** MCGRORY, G. H.  
"Earth Work by the Hydraulic Method." 1413.
- MILLER, SPENCER.** MCGRORY, THEODORE T.  
Florianopolis Eye-Bar Suspension Bridge. 345.
- MOISSEIFF, LEON S.** MCMINN, THOMAS JAMES  
Florianopolis Eye-Bar Suspension Bridge. 365.
- MONNICHE, T. B.** MCWORRIS, D. W.  
Emergency dam on New Orleans Canal. 1632.
- MORGAN, ARTHUR E.** MALTLAND, ALEXANDER J.  
Development of sanitary engineering. 1301.
- MORRIS, CLYDE T.** MARSH, HARRY J.  
Florianopolis Eye-Bar Suspension Bridge. 347.
- MORSE, EDWIN K.** MARSHETTE, HERCULUS  
Changes in Pittsburgh, Pa., business district. 751.
- MUCKLESTON, H. B.** MARSTON, ANSON  
Design of flume and siphon transitions. 1460.
- MULVILLL, FRANCIS J.** MARTIN, RICHARD C.  
Changes in Pittsburgh, Pa., business district. 752.
- NEWELL, F. H.** MARVIN, FRANK OLIN  
Some phases of irrigation finance. 563.  
State reclamation in Washington. 600.
- NEWMAN, BERNARD J.** MATHER, THOMAS HODGKIN  
Housing and the regional plan. 1111.
- NIMMO, W. H. R.** MAVIS, R. THEODORE  
Design of flume and siphon transitions. 1472.  
"Side Spillways for Regulating Diversion Canals." 1561.
- NOETZLI, FRED A.** MENEFEE, R. N.  
Concrete dam construction. 1411.  
Formulas for stresses in circular arches. 1555.
- NUTTER, A. D.** MERICK, HOWARD E.  
Florianopolis Eye-Bar Suspension Bridge. 348.
- O'BRIEN, MORROUGH P.** MITTER, JOHN A.  
Some phases of irrigation finance. 575.

**O'HARA, RAYMOND A.**

Automobile hazard and its reduction. 47.

**O'REILLY, JOHN DEVEREUX.**

Memoir of. 1726.

**ORROK, GEORGE A.**

Engineering features, Hell Gate Station. 142.

Engineering features of Kearny Power Station. 197.

**O'SHAUGHNESSY, M. M.**

Concrete dam construction. 1406.

Development of sanitary engineering. 1278.

**PAASWELL, GEORGE.**

Aerial tramways. 959.

**PALMER, GEORGE TRUMAN.**

"Changing Conceptions of Ventilation Since the Eighteenth Century." 1263.

**PARMELEE, CHARLES LESTER.**

Memoir of. 1727.

**PARSONS, H. de B.**

Tides and their engineering aspects. 673.

**PARSONS, WILLIAM BARCLAY.**

Tides and their engineering aspects. 681.

**PATTERSON, JOHN CURTIS.**

Memoir of. 1729.

**PAYROW, HARRY G.**

Development of sanitary engineering. 1285.

**PENDLETON, T. P.**

Surveying and mapping in the United States. 1495.

**PERKINS, FRANK WILLIAM.**

Memoir of. 1731.

**PHELPS, H. E.**

"Relation of Road Type to Tire Wear." 854.

**PIEPMEIER, B. H.**

Urban and interurban buses. 447.

**POERTSCH, CHARLES JULIUS.**

Memos of 1783.

**PRAY, JAMES STURGIS.**

Gulf and the Indian War. 1790.

**PRICE, FRANK.**

Memos of 1792.

**PURCELL, C. H.**

Gulf and the Indian War. 1790.

**RANDALL, R. H.**

Gulf and the Indian War. 1790.

**RAWN, A. M.**

Gulf and the Indian War. 1790.

**PALMER, GEORGE TRUMAN.**

"Changing Conceptions of Ventilation Since the Eighteenth Century." 1263.

**REID, JOHN W.**

Gulf and the Indian War. 1790.

**RICC, W. C.**

Gulf and the Indian War. 1790.

**RICH, GEORGE R.**

Gulf and the Indian War. 1790.

**RITTER, BENJAMIN H.**

Gulf and the Indian War. 1790.

**ROBERTS, WILLIAM J.**

Gulf and the Indian War. 1790.

**ROBINSON, ROBERT BRUCE.**

Memos of 1783.

**ROHMER, CARL.**

Gulf and the Indian War. 1790.

**ROSEGRANGS, MERRIE WILLIAM.**

Memos of 1783.

**RUDDE, G. T.**

Gulf and the Indian War. 1790.

**POETSCH, CHARLES JULIUS.**

Memoir of. 1733.

O'HARA, RAYMOND A.

**PRAY, JAMES STURGIS.**

Culture and the regional plan. 1130.

OREILLE, JOHN DEVEREUX

Memorandum of. 1529

**PRICE, FRANK.**

Memoir of. 1797.

ORTICK, GEORGE A.

**PURCELL, C. H.**

Crushed stone and gravel surfacing. 851.

OSHAUGHNESSY, M. W.

**RANDALL, R. H.**

Culture and the regional plan. 1139.

PAWSWELL, GEORGE

**RAWN, A. M.**

Sewage disposal problem, Los Angeles, Calif. 4992.

**REID, JOHN W.**

Urban and interurban buses. 453.

PARMELEE, CHARLES TESTER

Memorandum of. 1529

**RICE, W. C.**

Housing and the regional plan. 1116.

PARSONS, H. G. B.

**RICH, GEORGE R.**

Notes on arched gravity dams. 774.

PARRODS, WILLIAM HARVEY

**RITTER, BENJAMIN H.**

Housing and the regional plan. 1109.

PATTERSON, JOHN CURTIS

Memorandum of. 1521

**ROBERTS, WILLIAM J.**

Stream pollution in the Pacific Northwest. 979.

PAYWORTHY, HARRY G.

**ROBINSON, ROBERT BRUCE.**

Memoir of. 1773.

PENDLETON, T. R.

**ROHWER, CARL.**

Design of flume and siphon transitions. 1474.

PERKINS, FRANK MILLER

Memorandum of. 1527

**ROSECRANS, MERLE WILLIAM.**

Memoir of. 1735.

PHELPS, H. E.

**RUDE, G. T.**

"Tides and Their Engineering Aspects." 606.

PEPPERMILLER, E. H.

Memorandum of. 1527

**RUST, CHARLES HENRY.**

Memoir of. 1737.

**RYAN, WALTER J.**

"Logging Railroads." 471.

**SABIN, L. C.**

Lake Washington Ship Canal. 1034.

**SARGENT, A. W.**

"The Lake Washington Ship Canal, Washington." 1001.

**SAVILLE, CALEB MILLS.**

Development of sanitary engineering. 1273.

**SCHEIDENHELM, F. W.**

Tides and their engineering aspects. 700.

**SCHEIN, NATHAN.**

"Re-Arrangement of a Business District: Changes in Recent Years in Pittsburgh, Pennsylvania." 735.

**SHAW, ARTHUR M.**

Development of sanitary engineering. 1303.

**SHERIDAN, HOWARD AUGUSTUS.**

Memoir of. 1800.

**SHIRLEY, JOSEPH W.**

Basic information for regional plan. 1076.

**SHURTLEFF, ARTHUR A.**

Basic information for regional plan. 1070.

**SLEIGHT, REUBEN BENJAMIN.**

Memoir of. 1775.

**SMITH, AUGUSTUS.**

Stream pollution in the Pacific Northwest. 980.

**SMITH, C. E.**

Urban and interurban buses. 449.

**SMITH, GODFREY LEWIS.**

Memoir of. 1739.

**SMITH, KARLIE JEROME.**

Memoir of. 1728.

**SMITH, HARRY RONSON.**

Memoir of. 1821.

**SMYDER, HUNTER THOMSON.**

Memoir of. 1831.

**SOMMER, ROBERT TELLER.**

Memoir of. 1851.

**SPIEGEL, G. E.**

"Ship and Harbor Works." 1841.

**SPENCER, JOHN CLARK.**

Memoir of. 1821.

**SPENGLER, HARRY THOMAS.**

Memoir of. 1821.

**SPONNEM, ALLEN NEWHALL.**

Memoir of. 1821.

**STANLEY, O. E.**

"State Legislator in Wisconsin." 1892.

**STARKE, C. W.**

"American Slavery and its Oppression." 1860.

"The Slave in the South." 1865.

"The Slave in the South." 1865.

**STEVENSON, J. C.**

"State Legislation in Wisconsin." 1892.

- SMITH, RALPH JEROME.** RUST, CHARLES HENRY  
Memoir of. 1778. Memoir of. 1753
- SNELL, HARRY BRONSON.** RYAN, WALLER T.  
Memoir of. 1781. "Modern Railways," Ed.
- SNYDER, HUNTER IMBODEN.** SABIN, F. C.  
Memoir of. 1782. "The American Ship Canal," 1917
- SOMERS, ROBERT TEETERS.** SARCENT, A. W.  
Memoir of. 1784. "The Paper Mill Wastes," 1843.
- SPENCE, G. K.** SAVILLE, CAFE MILES  
"Pulp and Paper Mill Wastes." 1343. Descriptions of various substances
- SPENCER, JOHN CLARK.** SCHIEDENHELM, H. W.  
Memoir of. 1741. "This Day's Advance," 1805.
- SPENGLER, HARRY THOMAS.** SCHIEIN, NATHAN.  
Memoir of. 1786. "The Application of a Different Color to  
Wood," 1759.
- SPOONER, ALLEN NEWHALL.** SHAW, ARTHUR M.  
Memoir of. 1743. Descriptions of various substances
- STANLEY, O. E.** SHERRIDAN, HOWARD AUGUSTUS  
Crushed stone and gravel surfacing. 853. "Industrial Waste Disposal," 1900
- STARK, C. W.** SHIRLEY, JOSEPH W.  
Automobile hazard and its reduction. 30. Descriptions of various substances
- STEINMAN, D. B.** SHURTLEFF, A. V.  
"The Eye-Bar Cable Suspension Bridge at Florianopolis, Brazil." 266. "Industrial Waste Disposal," 1900
- STEVENS, J. C.** SIEGEL, RUBEN BENJAMIN  
Some phases of irrigation finance. 569. Memoir of. 1752
- State reclamation in Washington. 598.
- STEVENSON, W. L.** SMITH, AUGUSTUS  
"Industrial Waste Disposal: Introduction." 1326. "Industrial Waste Disposal," 1900
- STOCK, ROLAND H.** SMITH, C. E.  
Logging and lumbering. 536. "Industrial Waste Disposal," 1900
- STORRS, LUCIUS S.** SMITH, GODFREY THOMAS  
Urban and interurban buses. 455. Memoir of. 1750

- STOWELL, CHARLES F.** TRIPPI, OSCAR HOLMES  
Florianopolis Eye-Bar Suspension Bridge. 371. *Notes on bridge design*, 1926.
- STRACHAN, ROBERT C.** TURNER, G. A. B.  
Aerial tramways. 957. *Zones of safety study guide*, 1926.
- STREIFF, A.** UNGER, GEORGE E.  
Engineering features, Hell Gate Station. 142. *Type information for highway planning*, 1926.
- STROMQUIST, W. G.** VANDERCOOK, MERRIT W.  
Development of sanitary engineering. 1313. *Piping and pumping*, 1926.
- STRONG, HOWARD.** VAN NORDEN, ERNST W.  
Basic information for regional plan. 1082. *City planning future*, 1926.
- The regional community of the future. 1158. *City planning future*, 1926.
- SUMNER, HORACE AUGUSTUS.** VEAUCH, N. T., Jr.  
Memoir of. 1745. *Principles in bridge design*, 1926.
- SWENDSEN, W. G.** VAN PARIJS, ROMAN.  
State reclamation in Washington. 596. *The dry gemeinschafts form of the state*, 1926.
- TATE, ROBERT L'HOMMEDIEU.** WADDINGTON, J. A. Jr.  
Memoir of. 1747. *Principles of soil conservation*, 1926.
- TEELE, R. P.** WAGNER, FRANK.  
Some phases of irrigation finance. 570. *Memoir of*, 1926.
- THOMPSON, CLARENCE HARD.** WAHLMAN, PETER.  
Memoir of. 1788. *Memoir of*, 1926.
- THOMSON, T. KENNARD.** WALLER, HALE, Jr.  
Automobile hazard and its reduction. 48. *Principles of road traffic*, 1926.
- Construction methods on Moffat Tunnel. 110. *Principles of highway planning*, 1926.
- Tides and their engineering aspects. 683. *Principles of highway planning*, 1926.
- TIFFANY, R. K.** WALLER, O. L.  
"State Reclamation in Washington." 582. *State reclamation in Washington*, 1926.
- TOWL, ROY N.** WARREN, ALBERT H.  
Development of sanitary engineering. 1308. *Type work of the top engineers*, 1926.
- TRAINOR, LEE S.** WEBSTER, GEORGE S.  
Automobile hazard and its reduction. 53. *Development of automobile engineering*, 1926.
- TRIBUS, L. L.** WEBBER, PHILIP ALBERT.  
Development of sanitary engineering. 1296. *Memoir of*, 1926.

- TRIPP, OSCAR HOLMES.** STEWART, CHARLES E.  
Memoir of. 1749. Information from Sanjour's paper 1749.
- TURNER, C. A. P.** STRACHAN, RONERT C.  
Notes on arched gravity dams. 827. Actual damage 1827.
- UNGER, GEORGE F.** STEELE, A.  
Basic information for regional plan. 1068. Information from Hell Gate 1068.
- VANDERCOOK, WESLEY.** STROMQUIST, W. G.  
Logging and lumbering. 540. Information to display timber 540.
- VAN NORDEN, ERNEST M.** STRONG, HOWARD.  
"Civil Engineering Features of the Hell Gate Station." 113. The design 113.
- VEATCH, N. T., Jr.** SUMNER, MARC AUGUSTUS.  
Development of sanitary engineering. 1299. Information 1299.
- von FABRICE, ROMAN.** SWENZEN, W. G.  
"The Civil Engineering Features of the Kearny Power Station." 144. Some information in Washington 144.
- WADDELL, J. A. L.** TATE, ROBERT L. HOMMELIN.  
Florianopolis Eye-Bar Suspension Bridge. 343. History of 343.
- WAGNER, FRANK.** TEESE, R. B.  
Memoir of. 1789. Some facts in engineering paper 1789.
- WAHLMAN, PETRUS.** THOMPSON, CLARENCE HARD.  
Memoir of. 1750. History of 1750.
- WALKER, HALE J.** THOMPSON, T. KENNARD.  
Basic information for regional plan. 1072. Information from Sanjour's paper 1072.
- WALLER, O. L.** THIRKELL, R. H.  
"Relation of Road Type to Tire Wear." 854. This and other information 854.
- WARREN, ALBERT K.** THOMAS, R. N.  
"The Work of the Los Angeles County (California) Sanitation Districts." 995.
- WEBSTER, GEORGE S.** TRAINOR, THE S.  
Development of sanitary engineering. 1295. Information from Sanjour's paper 1295.
- WELKER, PHILIP ALBERT.** TRIMBLE, I. L.  
Memoir of. 1752. Development of public drainage 1752.

**WERNER, P. WILHELM.**

Notes on arched gravity dams. 784.

**WESTON, ROBERT SPURR.**

"Treatment of Wastes from Oil Refineries." 1329.

**WHEELER, LEVI LOCKWOOD.**

Memoir of. 1754.

**WHITE, LAZARUS.**

Construction methods on Moffat Tunnel. 112.

**WHITEHEAD, R. H.**

Emergency dam on New Orleans Canal. 1618.

**WILEY, A. J.**

Notes on arched gravity dams. 821.

**WILGUS, WILLIAM J.**

The regional community of the future. 1160.

**WILKERSON, T. J.**

Florianopolis Eye-Bar Suspension Bridge. 348.

**WILLIAMS, FRANK B.**

Housing and the regional plan. 1118.

**WILLIAMS, SIDNEY J.**

Automobile hazard and its reduction. 55.

**WINKENWERDER, HUGO.**

Logging and lumbering. 537.

**WOODS, J. B.**

"Reforestation." 531.

**WOODS, ROBERT P.**

Urban and interurban buses. 440.

**YOUNG, SAMUEL McC.**

Emergency dam on New Orleans Canal. 1630.